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N. E. FARMER.

For the N. E. Farmer.

ROTATION—BY J. H. TURNER.

A No. of the N. E. Farmer, dated June 22d, 1842, has just come under my notice. In this No. the Editor has done me the honor of copying entire from the Farmer's Register, a piece which I wrote some time ago, on the rotation of crops. To this he has appended a note, in which among other things, he says, "Nature teaches rotation." On this I wish to offer a few remarks.

I take it for granted that all who have seen this remark, have also seen the piece which called it forth. It is therefore needless for me to say, that in that piece, I did advance the sentiment that Nature in her course proceeded upon the plan of no fixed rotation. This sentiment I still feel disposed to defend, the opinion of the Editor to the contrary notwithstanding.

And that I may enter upon my task at once, I would observe, that without intending to invade the province of the geologist, I think it more than probable, that the earth now presents an aspect very different from what it did at the time of its creation. I admit that agriculture, and not geology, is my proper department: but still I will venture to express the opinion, that large portions of the earth which are now covered with immense forests, or which have been reduced to cultivation, and are now bearing large and luxuriant crops, were at first nothing but barren and naked rocks. If I may venture to specify, I would name that rich and beautiful country around Lexington, in Kentucky, as forming one of this description: also, that portion of Pennsylvania, embraced in the counties of York and Lancaster. A continuation of the same also passes through what is called the Valley of Virginia. In nearly or quite all of this section of country, there is a remarkable similarity of features. The soil is for the most part very shallow, imbedded on a limestone rock at a very little distance from the surface, and though so shallow, is nevertheless exuberantly rich.

And now, how can we account for these remarkable facts—that there should be any soil at all; and that this soil, though so shallow, should be so rich? I account for them in this way: I have assumed that all this section of country was at first a mere barren rock. Whilst in this state, nature was too skilful a manager to plant forest trees there, for they could not subsist. But she planted what could and did subsist, viz: mosses and lichens. These, with the aid of the lime substratum, were rapidly decomposed, and thus speedily changed into a little, thin, nutritious soil. Here, then, was a beginning. What she employed next, I cannot tell—probably "grasses of various kinds, and afterwards shrubs." The materials, whatever they were, continued to be skilfully managed, until a sufficiency of soil was accumulated for nature's great crop, and then she planted the forest tree there.

Here then is a change, a great change, from the very lowest to the very highest order of vegetation—from no soil at all, to a soil of the richest character.

But this is not *rotation*, in the general and proper signification of that term. It is properly and emphatically the *creation* of a soil. But rotations are never employed in *making* a soil: they are always resorted to where a soil already exists, and where cropping is in actual operation. A degree of fertility must, therefore, actually exist, or the whole policy of rotations must necessarily be frustrated. To prove this, let me inquire, what is the main object of all rotations? It is, as I conceive, to *maintain* a fertility already in existence, or to *increase* that fertility. No one ever thinks of resorting to a rotation, until he has brought the soil to that state in which it is capable of bearing a crop of some kind.

But it was stated a little while ago, that nature, in the case of the barren rock, employed her mosses, lichens, shrubs, &c. until she produced a soil capable of sustaining the forest tree, and that then she planted it. This seems to be the great object to which all her efforts are constantly tending. All her previous efforts are mere preparations in reference to this: And having attained it, the question is—does she ever change it? I maintain that there is no instance upon record, in which nature, *uninterrupted* in her course, has ever been known to substitute a tree of soft wood for one of hard wood. On the other hand, if the sap dies of old age, or is killed by lightning, or is uprooted by the hurricane, not a *pine*, but another oak springs up in its place to repair the injury.

There is one event and one only, in which nature resorts to a rotation, and that is when man interferes with her usual course. If the forest of oak be removed by man, and the soil on which it grew, be reduced to poverty and then abandoned, I will admit, that in this event, nature resorts to a rotation. In repairing the injury, she substitutes the soft wood for the hard. But then it ought to be borne in mind, that in this case nature has been turned out of her usual course, and that therefore no general conclusion ought to be drawn from this special exception.

But if the case of the barren rock and the accumulation of a rich soil upon it, appear to be too fanciful, we will suppose another case, which, unfortunately for our country, is of too frequent recurrence. We will suppose a piece of land so poor as to be incapable of any production whatever. In summer it bleaches in the sunshine, and in winter it merely receives the frosts and snows which fall upon it; but no crop does it produce. Let us suppose further, that instead of nature, some skilful farmer takes this hopeless spot in hand. In what way would he go about it in order to ensure success? Is it by any system of rotation which has ever yet been thought of, much less, carried into effect? Does not every one see that this is a case which is plainly beyond the reach of any rotation? He must then here, as nature did in the case of the barren rock, first create a soil in which there is some fertility, and then if he is a believer in the virtue of rotations, he may with propriety resort to them.

Nor is this a case of mere fancy. If I am correctly informed, a considerable portion of Flanders, now fruitful in every desirable production, was once a mere barren beach. Not even mosses nor litchens grew there. No blade of grass of any kind relieved the eye of its dull prospect. And how did the enterprising farmers of that now delightful country, effect this mighty change? Was it by any rotation? No. They carefully husbanded every available resource—they collected and applied all their manures, liquid as well as solid, and by a long course of patient perseverance, extending from generation to generation, have made their country the fruitful and delightful spot which travellers represent it to be. Whether, therefore, barren land be taken in hand by nature or by man, the very same process is to be pursued: a fruitful soil must first be *created*. When this is effected, man often, and perhaps generally, resorts to his rotations; but Nature, when left to her own course, NEVER DOES.

I cannot conclude this without expressing to the Editor my obligations for the very favorable and even flattering terms in which he has been pleased to speak of me as a writer. I never knew, till he told me so, that I had any talent at all of this kind. In all my efforts in this way, I can, in candor, say that I invariably aimed at nothing but truth and simplicity. If I failed, I determined that I would not subject myself to that keenest of all sarcasms—"*Montes parturiunt nascitur ridiculus mus*"—or, as the Saviour of sinners has beautifully expressed it—"This man began to build, but was not able to finish." If, therefore, I have succeeded in contributing to the amusement or instruction of any reader, I have in this my most grateful reward.

J. H. TURNER.

Remarks.—In our note appended to Mr Turner's article, (see vol. xx., No. 51,) we expressed an honest opinion of him as an agricultural writer. We think not a whit the less of him now for combatting our assertion that "Nature teaches rotation." We are thankful to him for his communication, and if he is the man we take him to be, he will not suspect the sincerity of our thanks because we accompany them with a reiteration of our remark, "Nature teaches rotation." We think we can prove this from Mr Turner's own facts. He says—"There is one event, and one only, in which nature resorts to a rotation; and that is, when man interferes with her usual course. *If the forest of oak be removed by man*, and the soil on which it grew be reduced to poverty and then abandoned, I will admit that in this event, nature resorts to a rotation. *In repairing the injury, she substitutes the soft wood for the hard.*" Upon this fact we are agreed. "But"—adds Mr T.—"in this case nature has been turned out of her usual course, and therefore no general conclusion ought to be drawn from this special exception." Here we join issue. The *exception ought to authorize the general conclu-*

sion;—for it is in the case of the exception, and in that alone, that nature starts upon her course under circumstances like those in which the farmer finds himself every spring. He took off his crop in autumn,—that had exhausted in some measure his soil:—in the winter, he cut down and carted off the oak forest, which had been drawing sustenance from the soil and exhausting it. Spring comes, and nature will put on that crop which will succeed best where the oaks have been stript away. What is that crop—oaks? No—but *pines*:—rotation will be her principle. Our circumstances are like hers. She may here then be our teacher. And what is the lesson she gives? It is *rotation*: rotation whenever we are at work upon soil which has been impaired by taking off a preceding crop; that is, generally in our farming operations.

Nature's course, where all her productions are left to perish on the soil, may be our rule when we can afford to leave all our crops unharvested. But so long as we purpose annually to lay up stores in our barns, and corn bins, and cellars, we must study what nature does where we strip her fields, if we would get the instructions that we most need.

With Mr Turner's remarks upon nature's course in making a soil, we fully concur; and we are pleased with his article, as we have been with all that we have seen from his pen. It will give us much pleasure to hear from him again and often.

But the true question for the farmer is not brought out in the discussion thus far—certainly not for the *Northern* farmer. No good husbandman here ever thinks of planting any crop that is to be tilled, without manuring his land for that crop. And the question is, whether, having put six cords of good manure upon an acre in 1842, and planted to corn, it will be better for him in 1843 to put six cords more on the same acre, and plant to corn again, or to put some other crop where he had his corn last year, and take a new lot for corn. We are satisfied from our own experience, that more income is derived from an equal exhaustion of soil by changing the crop than by repeating. And of another fact we are satisfied, viz: that there are many fields which will yield more Indian corn the first year of manuring well and planting, than they will the second, even though the manure applied the second year be the same in quality and quantity as the first. This fact favors change of crop from year to year—in other words, rotation.

Before we received this communication from Mr Turner, we had marked for insertion, the remarks of Mr Ruffin, Editor of the Farmers' Register, upon Mr Turner's former article. Mr R.'s monthly writings prove that he stands foremost in science among the agricultural editors of the country, and his opinions in regard to Nature's rotation, have our concurrence.—Ed. N. E. F.

MR RUFFIN'S REPLY TO MR TURNER'S REMARKS ON ROTATION.

Mr Turner has quoted as proof to sustain his opinions, the facts reported to him by several persons, that they had cultivated some one or other particular crop for several or many years in continued succession on the same ground, without deterioration of product, or only such deterioration as was caused by the decrease of fertility, caused by such exhausting tillage. The fact that any person had persevered in so injudicious a course for any length of time, and without learning his error from experience, would show him to be so injudicious a farmer as would alone bring his testimony into doubt. We are very sure that Mr Turner will never have such proofs to offer from his own practice. But admit all the facts alleged by his informants of their success, and what do they amount to? Why, merely that, as in thousands of other cases, particular facts have contradicted, or have appeared to form exceptions to general rules. And if such apparent exceptions are to be admitted as serving to discredit general rules, then there is no one rule of good farming that cannot be so opposed, and its utility or necessity put down by the authority of facts. We have heard of cases as well established by testimony as those stated by Mr Turner, which, if deemed conclusive, would as clearly prove that manuring land did no good to the crop—that purchasing and applying rich town manures brought the neighboring farmer to loss—that marling was injurious to land, &c. In short, there is scarcely any one agricultural opinion, however false and even ridiculous, that has not been sustained by one or more *facts* alleged by honest and veracious, though certainly mistaken witnesses. And these particular exceptions referred to by Mr Turner, however apparently successful and profitable, have never been considerable enough or long enough continued, to cause any general practice to be founded on their example. No farmer, good or bad, has adopted, as a system of cultivation, the continuing the same crop on the same ground every year. There are many different rotations of crops pursued in Virginia, some few of which are good, or established on sound principles, and very many are decidedly bad and very objectionable. But, whether the rotation be right or wrong, every cultivator aims at some rotation, or change of crops, instead of continuing one alone in perpetual succession on the same ground.

But universally as is rotation thus approved by practical cultivators, perhaps such testimony may be objected to, (as might many other general practices,) because of the ignorance of most practical cultivators, and the theoretical and visionary views of the more learned. Therefore, we are content to put aside all such authority, and to abide by the practice and experience of only one intelligent, observant, practical and successful farmer; and the credibility of that witness shall be beyond doubt or cavil—for we shall summon as that witness Mr Turner himself.

If no change of crops be necessary, why does Mr Turner follow corn by oats, and oats by grass? If there be no necessity for, or superior profit in this succession, why not as well reverse the order of these crops, or keep corn always on one field, oats on another, and grass on the remainder of the farm? If the answer be, that although corn might well follow corn, and oats follow oats, yet that the corn tillage cleans and prepares the ground for the growth of oats, and that the oats shelter the young herdsgrass and clover, this explanation is, in fact, yielding the whole question, and stating good and sufficient reasons for the particular succession stated.

Mr Turner's rotation is uncommon, and even peculiar. Still it is not therefore less a rotation; and, according to his peculiar position, we had given him credit for having adopted a rotation of very valuable features and effects. We especially admired the plan of two successive crops of corn, (though a different kind of hoed crop might have been better in place of one of them,) though such a repetition might have been a barbarous and abominable part of a course of crops at ten miles from a town, or where no putrescent manure could be obtained other than the farm furnished. With Mr Turner, grass for hay is the most important and profitable market crop. Oats is the next in importance, and corn is not worth raising for sale, and only desirable for bread, and as a cleansing crop to prepare the fields successively for grass. To make the most of this cleansing operation, and because he can make up by purchased manure for the double exaction from the field, he cultivates two crops of corn in succession, and thereby makes the ground as clean as possible. Still herdsgrass and clover would not take well immediately after corn; the shade of oats is required as shelter from the sun, and even the exhausting power of oats, to keep down weeds, and when reaped, to leave the land wholly to the young grass, when nursed to an age to be able to withstand both sun and weeds. The land then remains several years in grass, until weeds have gained the ascendency; when the crop and tillage of corn again are resorted to, for the purpose of recommencing the same rotation. We merely here present reasons, and aim to show that Mr Turner not only uses a rotation, but one founded on sound principles, according to our views of the theory of rotation. The practice—the facts—the merit of the system—are all his own; and we have so much respect for his excellent practice, n this respect, that we are content to rely on it alo e to rebut all his arguments against the necessity of rotations, even were his witnesses and particular facts of exceptions to general rules, ten times as many and as cogent as they are.

Mr Turner has been singularly unlucky in one case adduced as practical proof of there being no necessity for a change of crops. In this case Nature is the cultivator, and her farm "is the world, and the crops are the immense forests with which it is covered"—and Mr Turner adds, "here too is no relief from rotation, for the same crop has been on the land for thousands of years." Now the actual facts are directly the reverse—and so striking, that they have been often cited by writers as proofs of the necessity of changes of growth. The ordinary growth of a forest even at the same time, is far from being the same crop. There are many different trees, as different in kind, and in their habits and wants, and products of manure by their decay, as the different kinds of cultivated grains and grasses. Therefore, even though the composition of a forest might appear to be unchanged in general, for thousands of years, yet it probably is the case that entire changes are perpetually made in the death and replacing of each tree. For example, a pine may occupy its place for a century, and then die, and be succeeded, not by another pine, but by an oak, which may stand for five centuries, and then be succeeded by a beech or poplar. But Nature is not satisfied with this gradual change and rotation by mixing crops. When fires, the depredations of insects, inundations, or tillage, have completely destroyed a forest growth, another succeeding growth is generally of trees entirely different. Thus, if a forest principally of oak, short-leaved pine, hickory, dogwood and chinquapin, in lower Virginia, be cut down, and the land suffered to grow up again, (either early or late,) the next growth of trees will be almost exclusively of pine, and that of a different kind (the "old field pine,") from those which formed part of the previous cover. This is a fact notorious to every resident of this region. In other regions the changes of kind are

different, but not less marked than these. And so complete have been such changes, and such totally new growths of trees produced, that many persons, and even some men of science, have thence believed in the spontaneous production of such new growth, or equivocal generation of the new trees, because they could not conceive whence their seeds had been derived. Such facts and proofs, directly opposed to Mr Turner's position, are too numerous to be cited here. The subject is however curious and interesting, and may be resumed hereafter in a distinct and substantive article.

In sundry of the particular positions assumed by Mr Turner as proofs, or steps in his argument, we entirely concur, and suppose that no one would dispute. For example—it is not our opinion, nor the opinion of any reasonable advocate for rotation, that the mere growth of any crop serves to enrich the land producing it—or that any rotation of crops, if all are removed, can increase fertility. Nor would we dispute that some *tilled* crops, as corn, cotton and potatoes, (the very cases adduced by Mr Turner,) may each be continued for many years on the same ground, without very manifest deterioration, especially if dressed by various kinds of manures. But the true question is, could not, even in the most successful cases, these crops have been raised better, and to greater profit, if alternated with others? But even the admission of such exceptions cannot be made as to *broadcast* crops, which are not cleaned by tillage. It is manifest and notorious, that neither wheat nor oats, nor any one kind of grass, can be continued to any profit, for years in succession on the same ground. Mr Turner's statement of his own herdsgrass giving place after a few years to green sward, or to weeds, is not only a proof of this position, but also of Nature's urgent demand for a change of crops.—Ed. Far. Reg.

THE CUT WORM.

We do not think this destructive insect was ever known to be more destructive than the present season. In many sections of the State, entire fields have been utterly and totally destroyed, and in most regions from which we have any account, their ravages are represented as being altogether unprecedented in the memory of man. As the corn crop is one on which we place our principal reliance for bread, this evil is one of fearful magnitude. It is calculated to affect all classes but more especially perhaps, the indigent but industrious poor. Still, great as it is, the evil is not to be regarded as wholly without remedy. There are many valuable crops, which in this climate will come to full maturity if sown now; and those who have suffered in the loss of their corn should lose no time in getting in some crops to occupy the soil and supply in its produce, the loss involved in the failure of their corn. Buckwheat, Peas, and many of the earlier varieties of the bean tribe will have sufficient time to grow even if planted as late as the last of June or the first of July. Potatoes also and Turnpis, may yet be planted, and the spaces in our fields which have been vacated by the destruction of the original growth, be made to produce a crop equivalent, in point of actual value, to the corn. Fortunately, the cereal grains promise at present a most luxuriant crop;—rye, oats, barley, millet, and wheat wherever it is cultivated, will be abundant, and of a quality, judging from the present favorable indications, seldom if ever surpassed.—*Maine Cult.*

From the Conn. Farmers' Gazette.

MUCK AGAIN.

Mr Storer—I wont say "For the Gazette," because I wish to have you dispose of what I write as you think proper; but I want to say a few words to you about *muck*—yes, *muck* again. My wife says that it 's *all* muck, and that I do n't want any thing more if I can get a ditch to dig, or a barnyard to plow and scrape out; and that my neighbors and every body says that I never shall pay my debts, but will certainly go down, or "come upon the town," if I undertake so many, what she calls, extra jobs,—or work that I never shall get any thing for, and that is not, in her estimation, necessary to be done,—such as draining and plowing land which nobody else ever thought of plowing, and which never was plowed since Mother Eve picked all the roses and killed all the bushes but the alders, sumachs, haz'e-nuts, white bushes, sweet fern, elders, briars of all sorts, and *nigger heads*, (cinnamon fern.) I wanted to kill what few bushes the old lady left, and I could do it in no other way than by plowing. They have been cut once in about two or three years ever since I was a little boy; but they grow thicker and faster.

I have made land which was estimated at five dollars per acre, worth thirtyfive, and some say fifty. It cost me fifteen, perhaps, to subdue it, more than I have as yet received from it. But I am away from the subject I started upon. I was about to tell you what a brushing I had when I stepped on to the clean floor and carpet after I had been digging muck.

I had a piece of swamp meadow which formerly produced a good burthen of grass. It grew wet and miry, and my father dug a ditch through the middle of it. It was drier for this, but the grass would not grow after the ditch filled up; the grass grew where the water run on to it, but not much elsewhere. I dug a ditch *round it*, cutting off all the springs, and that was the finishing stroke to it. Nothing of much value except upon what was thrown out of the ditch, and there the weeds, &c. were so rank and large that I concluded my meadow was worth more for manure than any thing else. I carried off about twenty loads of the sod, which is composed of moss, vegetable matter, such as decayed grass, leaves, limbs, roots of trees, and sand washed in from the hills. Some of this I put upon my upland meadow last fall, and laid in a heap, hoping it would rot so that I could beat it to pieces. In the spring I succeeded in spreading two thirds or three fourths of it; the rest I have piled up. But notwithstanding it was not fully prepared for manure, the effect is strikingly visible more than one fourth of a mile. I put some of it in my yard. This spring I put it on my corn ground, and the corn is better where it comes in contact with one of those sods which have been saturated in the barn-yard, than it is where I put on stable manure. I believe if this can be decomposed and neutralized, it is worth more for manure, on some soils, than any thing else, because it will last longer. Now what do you think about it, Mr Editor? Just let me know, when you send me one of your agricultural handmaids.

Eggs from Ohio.—700 bbls. of eggs were recently shipped from Cleveland, Ohio, for Boston. Each barrel contained 70 dozen. The "enterprise" was "got up" by a genuine Yankee of Mass.

CULTURE OF THE VINE.

We notice a letter from Mr Longworth, of Cincinnati, to the editor of the Horticultural Magazine, published in New York, in which some useful observations occur on this subject. Mr L. has been long known as a distinguished amateur in things of this sort, and the vine particularly has received from him a large share of judicious attention. He has given up mostly, if not altogether, the attempt to cultivate the European species, and has found his labor best rewarded by procuring and improving the best varieties of the native vine. The result of his experience in this particular is worthy of note. A light soil is especially adapted to the vine. Mr Longworth says:

"I have three varieties of native grapes which I consider far superior to the Catawba for the table. They have none of the hard pulp common to the Catawba, Schuylkill, Muscadel, and the Isabella. For the table, they are equal to the Meunier, or Miller's Burgundy, and as free of pulp. One of them, which I first met with a few years since, I call the Ohio grape. The vine is perfectly hardy, a fine bearer, has never had the mildew or rot, and the branches very large, say four times the size of the Burgundy. I sent a bunch of these grapes to Boston last fall, but it was too long on the road to be in perfection. I will give five hundred dollars for a root of native grape that, in quality of the fruit and size of the bunch, shall surpass it. The other two are equally good for the table, perfectly hardy, great growers, but the bunches of fruit not so large.

"I was surprised, when East, to see no good native grapes. At my different vineyards, I have about sixty acres in grapes, but not all in bearing.

"There is, perhaps, no fruit so much affected by circumstances of soil, position, and culture, as the grape. By taking the native vine, the probabilities of success will be greatly increased, since its quality may be better known, and the necessary situation as it respects soil and exposure more surely ascertained."—*Balt. Amer.*

Risks of Mercantile Life.—Gen. Dearborn, in a lecture delivered last winter before the farmers of the Massachusetts Legislature, declared that 97 out of every 100 persons who obtained their livelihood by buying and selling, *failed* or died insolvent. This fact he ascertained by reference to the books of the custom-house, the banks, the probate office, and from the recollections of the oldest merchants. If this statement approximates to the truth in relation to the risks of mercantile life, it should induce fathers to instil into the minds of their sons a love of agricultural pursuits. Gen. Dearborn declared that "he would prefer a cottage in the country with five acres of ground, to the most splendid palace that could be erected in the city, if he must depend upon the success of merchandize to support it."—*Ohio State Jour.*

Sound Sentiments.—That mechanic or professional man, who cannot sustain himself without assailing those of his neighbors engaged in similar business, may always be considered a mean-spirited creature, unworthy the name of man. He who goes about slandering a competitor, however exalted his merits in his own conceit, will always be despised by noble minds, as a thing which makes itself despicable to gratify a bad heart.—*Selected.*

From Gray's Scientific and Practical Agriculture.

IMPROVEMENT OF THE SOIL BY THE ADDITION OF EARTHS NOT EXISTING IN IT, OR IN TOO SMALL QUANTITIES.

1. *Carbonate of Lime.*—There is no subject respecting which there is a greater diversity of opinion among practical farmers, than that of the application of lime. It is said by some, to burn up the vegetable matter; while it is believed by others, to add greatly to the fertility. When applied as a carbonate, no ill effects can be experienced. In its caustic state, it may prove injurious by forming with the vegetable matter an insoluble substance, which thus removes a part of the vegetable food.

It is hardly necessary to repeat here, that most of our soils are nearly destitute of lime, although reposing on limestone rocks. We have no soils which are strictly *calcareous*, and hence this earth may be added without the least fear of injury, but with the certainty of ultimate and permanent benefit. The quantity need not be large—four or five per cent. and even less, will essentially improve the *texture* of the soil, and supply the necessary *earthy ingredients*, and it is in these two respects that we are now speaking of it. Hence it should be applied, for these objects, in the form of marl, shell, or ground limestone. Quick or slacked lime applied to the soil, soon becomes converted, in part, into carbonate, and air-slacked lime is already partially carbonated; but the application of lime in this form is better suited to it as a *saline manure*. The effect of lime, as an earthy ingredient, is to render cold, stiff clay soils more friable and light; of course dryer and more easily heated by the rays of the sun. Upon sandy soils, the effect is just the reverse; and it enables such soils to retain the manures placed upon them, and counteracts the electro-negative character which the silicic acid or silex imparts to them.

2. *Sand or Gravel.*—When a soil is too clayey or peaty, its *texture* may be improved by the addition of sand or gravel. Their effect upon such soils is similar to that of lime. The sand gives to the clay a better consistency, and renders the peat more compact. It is easy to understand how this is; but it has been a question of some difficulty to determine whether sand or coarse gravel is the better form in which to apply siliceous matter. This question is one of easy solution, provided all the circumstanees are understood. If the soil is peaty, the fine gravel will produce a more immediate effect, and loam is better than gravel; but coarse gravel will be more durable, because it not only supplies the earthy ingredients which influence the texture, but also the decomposable minerals, which are equally necessary for the growth of vegetables. Loam, or fine gravel, spread directly upon peat meadows, after they are drained, will render them fertile at once; provided that a small quantity of lime, ashes, or other alkaline substance is added, to correct the acidity, and dissolve the vegetable matter.

If the soil is clayey, coarse gravel will ultimately prove the most valuable, for the same reason as above, and loam or fine sand will produce a more immediate effect; hence, the decision of this question, and the practice, will be one way or the other, according to the object we have in view in making the improvement. If a *sufficient quantity* of loam could be added, it would undoubtedly be better than either sand or gravel.

3. *Clay.*—Sandy, light, peaty and calcareous soils are often benefited by the addition of clay. The mode of applying it (as derived from experience and confirmed by theory,) is to spread it upon the soil in the fall or commencement of winter, that the frost may break it down, and render it fit to be intimately mingled with the soil, by the process of plowing and harrowing in the spring. Chaptal recommends the practice of baking and then pulverizing, by which process it approaches nearer to sand in its physical properties.

The utility of clay in agriculture has long been acknowledged, but the manner in which it operates is yet a little doubtful. Some things, however, are well settled. It adds its adhesive and retentive properties to sandy and peaty soils, and furnishes one indispensable earthy ingredient; but its effects are not wholly accounted for by the texture which it imparts. We must resort to its composition. Now, it has been found that some of our clays, especially the clay-marls, contain small quantities of carbonate of lime. By adding one earth, therefore, we actually add two, both of which are especially important to soils of the above description; for, where there is too much sand or silica, both clay and carbonate of lime operate to equalize the electrical forces: both act as converters of vegetable fibre into vegetable food.

A specimen of common blue clay from Lowell, analyzed by Prof. Hitchcock, gave—

Water and organic matter,	4.0
Silica,	61.52
Alumina,	20.50
Protoxide of iron,	9.82
Oxide of manganese,	0.56
Lime,	0.56
Magnesia,	.44
Sulphur and loss,	3.22

It will be seen by this analysis, that there is a large quantity of *protoxide of iron*, and this explains further its influence. "Our common clays," says Dr. Dana, "contain more or less of sulphuret of iron. The conversion of this into the *persulphate* of iron, is the natural consequence of exposure; free sulphuric acid then results, which acts on any lime in the soil, forming sulphate of lime, or gypsum." But the most important effect of the *protoxide* is, that in passing into the *peroxide*, it tends to induce decay in the vegetable matters which are in contact with it; hence clay acts upon a soil as an alkali, an alkaline earth, and a metallic oxide.

Finally, clay has the property of absorbing gaseous bodies, which are useful in vegetation. Liebig attributes to it the power of absorbing ammonia, from which plants derive their nitrogen. Daubeny regards this power in a soil, as an indispensable condition of fertility.

As sand will improve a clayey or peaty soil, and clay a sandy soil, it is matter of no little astonishment that New England farmers have not resorted frequently to this mode of amelioration. In various parts of the country, sand-hills, peat swamps and clay beds, are so situated often, that it would be the easiest thing in the world to transfer portions of the one to the other, to the mutual improvement of all. It sometimes happens, that a soil is reduced to an impalpable powder when dry, and to a soft paste when wet, while the earthy and vegetable ingredients are in the right proportions to ensure fertility. Such a state of the soil results from a long course of tillage, and is due to the fact that the minerals are all decomposed by the action of growing plants, and without decomposable minerals in the soil, no plants grown upon it will come to maturity. Such lands, therefore, require gravel, sand or loam, and as in the cases above mentioned, the latter has been found to produce the best effect, while theory at least would lead to the opinion that the former would be most durable.

The general theory relative to these modes of improvement of is, first to improve the *texture* and consistency and equalize the electrical state of the soil, and secondly to furnish those decomposoable minerals which plants must have in order to mature their seeds.

There is a limit, however, to these methods, while time and expense are required to carry out a system sufficiently rigorous to produce the highest effect; but if the farmer will have patience, coupled with perseverance, he may have the satisfaction of seeing his soils gradually but surely approaching to the best possible texture, and to the most favorable proportions of all the mineral ingredients.

CHARCOAL AS A MANURE.

The following is copied from the first volume of the Transactions of the N. Y. State Agricultural Society:

"There is no subject connected with farming that requires so great attention as manure. Let the land be ever so sterile and barren, it has been fully ascertained that by a judicious course of manuring it can be enriched and made productive. Let the soil be as rich and as full of succulent matter calculated for the producing and nourishing the variety of plants necessary to be grown for the use of man and the benefit of the animal creation, a continued course of tillage, and a series of years' neglect of manuring will certainly render it barren and unproductive. Upon the state of the soil on every farm, depends the living, we may say, of the farmer and his family; and, carrying out the principle in its most extensive sense, upon the activity and intelligence of the farming community depends the whole interests of the entire commercial and civil community of any country. These facts are so evident to any man who will take but a moment for reflection upon them, that it is a wonder indeed that more attention has and is not directed to this all important question, as to what are the best manures.

I have recently had my attention directed to the use of *charcoal*, by the knowledge of some facts that have been communicated in answer to my inquiries. I shall not pretend to enter into a series of reasonings upon the chemical affinities of charcoal to the soil upon which it may be applied;—these matters I shall leave to those whose education and pursuits have better fitted them to ascertain these things, by enabling them to reach them by chemical analysis, which I am unable to make. I shall simply state the facts which I have observed, and those which I have learned from others, whom I have requested to look to them, together with the results that have been obtained, leaving to others to say whether the question is not of sufficient importance to lead them to try whether the results will not be equally beneficial in very many other situations.

In the neighborhood in which I live, there are a great many hearths of coal-pits, as they are called; places where wood has been piled, and burned into charcoal. I have invariably observed, that upon

these hearths, in the course of a very few years, a luxurious coat of grass made its appearance, when all around in the vicinity scarcely a blade of grass could be found, and what there was found out of the coal hearth, was sickly and dwarfish. This was so well known, that in the heat of summer, when the pasture in other places was dried and withered by the summer drought, it was a common practice to drive the cattle to the "coalings," as they are called, sure that they would there obtain food. During the last autumn, business called me into Harford county, in Maryland. While there, I was surprised at the exceedingly luxuriant growth of a crop of grain but lately seeded into a field, on Deer creek, and also at the very peculiar appearance of the soil. The soil upon which the grain was growing had a remarkably dark appearance, and appeared to be so mellow and friable as nearly to bury the foot at every step, and although it lay very level, did not appear to the touch to be so; not as the soil in the other fields around it on the same level. My attention was excited by what I saw, and I inquired if the field had not been covered with charcoal, and was told that it had been. I inquired when it was done, and was told it had been spread upon it more than *twenty years ago!* I then asked what was the general quality of the crops raised upon it, and I was told that they were invariably fine, both as to quantity and quality. The person who lived upon the property informed me that he had repeatedly hauled the soil from that field and spread it upon the surrounding fields, and he could, for years, or in fact from the time he spread it there to the present day, always see, by the growth upon these places, exactly where he had put it!

I had for some time past had my attention directed to the subject, but here I found it fully developed to my full satisfaction.

When I returned home, I made it the subject of conversation frequently with the farmers in our neighborhood, and from one of them I learned that when he lived in Chester county, Pa., with his father, a part of their farm became worn out and unproductive. It was abandoned for several years, and in the mean time many coal-pits had been formed upon several of the old fields, by drawing the wood there to burn into coal, that had been cut in the adjoining timber lands. After some time, they again put those fields under tillage, and he states that wherever a coal hearth had been left, there the crop of grain and the growth of grass was equal, if not superior, to that which grew upon any of their most productive fields. Another case of the application of charcoal I have found in this neighborhood, was made by a gentleman in the iron business to his meadow, near the coal house. He had a large quantity of the coal that had become too fine to be used in the furnace, and he concluded, as the easiest way to dispose of it, to haul it out and spread it upon the grass land. He spread it late in the fall, and for many years he informed me he observed the most astonishing effect produced upon his yield of grass. The quantity was nearly double, and the effect continued as long as he owned the property, which was at least ten years: so he informs me.

From what I can see of its effect, where a large quantity is left upon the ground, as for instance, in the centre of the hearth, it takes a considerable time for it to acquire a sufficient degree of moisture to penetrate to the bottom, and until it has acquired that degree of moisture, nothing will grow there. Around the outer edges of the circle where it is thrown upon the ground, it is soon saturated with moisture, and vegetation is soon facilitated, and goes on rapidly. I should judge from this, that when about to be applied to land, the coal should be ground fine, and then thoroughly wetted and sown or spread over the surface of the soil. From the circumstance of its being easily powdered or mashed up, I should suppose that the process would be very easily effected by making a floor of plank, say circular, and procuring a good sized stone, to be affixed by a shaft to an ugright post, and drawn over the coals. The cost of covering an acre would be trifling, and if it produced no other effect than that of forming a permanent vegetable basis in the soil, for lime to act upon, it appears to me it would well repay a greater amount of labor and expense than would be necessary to try it.

I have just been made acquainted with another result of the application of charcoal to arable land; that is, wherever charcoal has been applied, *rust never affects the growing crop of wheat.* My friend who has communicated this fact to me, states that he has observed it particularly, and when the field generally has been "struck with rust," as it is called, those places where he had applied the charcoal *invariably escaped.*

J. H. HEPBURN.

PROFIT OF SWINE.

The question of profit in keeping and fattening swine, has been much discussed, and so much depends on circumstances of age, breed, food, length of time kept, and price in the market, that the question must remain open. Mr Phinney gives it as his opinion, that with Indian corn at 1 dollar per bushel, and potatoes at 33 cents, and the price of pork 12 cents, they may be fatted to a profit. In his experience, he says, four quarts of Indian or barley meal with an equal quantity of apples, pumpkins, potatoes or roots cooked, will give two pounds of pork.

A small example of fatting swine in Medway, Norfolk county, which came under my notice, seems worth recording, because an exact account of their cost was kept. The owner was a mechanic, and bought every article of their feed, not even keeping a cow. His two hogs when killed weighed, one 420 lbs.—one 382 lbs., and pork was then worth 12 cents per lb. Value when dressed, $96 24. They were killed at 14 months old. They were bought in November and killed in the December of the next year. They were kept in the sty the whole time; were fed three times a day with weeds, corn and potatoes. The potatoes were boiled and the Indian meal mixed with them into a mash. They were fed exclusively on corn one week before being killed. They did as well in winter as in summer. Salt was frequently given to them in their swill. The price of corn bought for them was 117 cents to 136 cents, or an average of 130 cents per bushel. Potatoes were 30 cts. per bushel. The whole cost of the hogs when fatted was $62, including the price of purchase, or 7.8 cts. per lb.

I shall here subjoin some careful experiments made by myself a few years since in relation to this subject.

Experiment 1.—Two hogs about one year old; one of them a barrow in very good condition; the other a barrow recently gelded and in ordinary condition, were put up to be fed exclusively upon Indian hasty pudding, or Indian meal boiled with water. We began feeding them the first of March 1831, and weighed them again on the nineteenth of the some month. In the 18 days they consumed six bushels of Indian meal. They were offered cold water to drink, but did not incline to take any.

The result—

No. 1 weighed on the 1st March,	233 lbs.
" " 19th "	269
Gain,	36
No. 2 (recently gelded) weighed on 1st Mar.	190
" " " 19th "	247
Gain,	57

The gain of the two was 93 lbs. in 18 days. The quantity of meal consumed by them was 10 quarts per day to the two. We allow 30 quarts to a bushel, deducting two for grinding. The price of corn at the time was 70 cents per bushel. The expense of the increased weight is 4.5 cents per lb.

Experiment 2.—No. 2, mentioned above, weighed

On 23d March,	253 lbs.
Do. 30th April,	312
In 38 days, gain,	59 lbs.
No. 3, a shoat purchased from a drove, weighed	
On 28th March,	100 lbs.
Do. on 30th April,	151
Gain in 33 days,	51 lbs.

This is a fraction over 1 lb. 8 oz. per day each.

In this case their food was exclusively boiled pstatoes mashed with Indian meal. The exact amount consumed not ascertained, but fed as freely as they would bear.

Experiment 3.—The two last named hogs were for the next 20 days put upon Indian hasty pudding exclusively, with the following result:

No. 2 weighed on 30th April,	312 lbs.
" " on 20th May,	382
Gain in 20 days,	70 lbs.
No. 3 weighed on 30th April,	151
" " on 20th May,	185
Gain in 20 days,	34 lbs.

The two in the above named 20 days, consumed four and one half bushels of meal, cooked as above. Meal 78 cents per bushel. Gain of the two, 104 lbs. in 20 days.

In the fourth experiment, sundry swine were fed with meal and potatoes, washed and mashed. In 52 days they gained as follows: one 68 lbs., another 48, another 86. Two others in 24 days, gained, one 55 lbs., the other 25.

[Another experiment with Indian hasty pudding was made, and the gain was large. We have not room for the details.]

The results of the experiments "seem to demonstrate the great advantage of cooked food, both as it respects its increase of bulk and the improvement of its nutritive properties. Whether it would apply to those substances whose bulk is not increased by cooking, equally as to Indian meal and the like, is a matter which experiments only can determine. In an experiment recently made, of giving swine raw meal mixed with water, I have found a falling off in their gain of nearly one half, compared with giving their food cooked.—*Abridged from Colman's Fourth Report.*

NEW ENGLAND FARMER,
AND HORTICULTURAL REGISTER.

BOSTON, WEDNESDAY, JULY 20, 1842.

THE CROPS—PRICES, &c

There is a general and proper curiosity in the minds of all classes of our community, to learn whether the labors of the husbandman are to be rewarded by a luxuriant, an ordinary or only a scanty harvest. The brief items of a newspaper upon this subject, which generally are founded upon the appearances in a single county, and often upon the appearance of a single field, are worth but little taken separately as data for an opinion And yet these items collectively, gathered from the papers of every section and State of the Union, will enable one to form a tolerably correct estimate of the amount of the harvest. We seldom copy the notices which fall under our eye, but we remember the substance of them, and endeavor to draw a correct inference from the whole.

The wheat crop of the country will be large. In some sections, as in parts of Maryland and Virginia, the rust has shortened it, but the accounts from the immense West are all thus far favorable. It is not *certain*, however, that the harvest will be as abundant as accounts indicate. Blight, rust, mildew, &c. often come when the crop is very near maturity, and suddenly cut short the expectations of the reaper. We have no special grounds for anticipating such disappointments the present season; and we think it is late enough now for us to say with much confidence, that the crops of winter and spring grains throughout the country will be unusually large. Bread stuffs will be abundant and cheap.

In our vicinity, the barley worm has made sad ravages in some fields; but barley is not a crop that is extensively grown. Excepting where barley has thus suffered, all the grain that has come under our notice looks well. The few fields of wheat, the winter and spring rye, and the oats all promise to yield plentifully.

The Hay Crop.—Farmers are now busily getting this into their barns. Last week was favorable for their operations, and they improved it. On Friday there were showers, and Saturday was somewhat overcast. With this exception, the weather has been good for drying the crop for eight days preceding Monday (18th)—and the crop is abundant. The copious rains of June and the early part of July, have entirely dispelled the apprehensions which were felt in the early part of June. The *bulk* of hay is very great. The crop absolutely is good; but it is not so much greater than in most years as the mere looker-on imagines. The growth has been very rapid, and the hay is light in proportion to its bulk. The pitchfork makes a much smaller return than the eye does. There is less weight and less substance in a *barnfull* of hay, than we have known for several years. The crop, though good, is not so great as many persons represent it; and we predict that hay will command very nearly as high a price next April and May, as was paid for it in those months this year.

Potatoes—The early kinds will yield abundantly. Of the latter ones it is not yet time to have an opinion: the vines look well.

Fruit is abundant on the trees.

Prices.—With such prospects for a bountiful harvest, and with a general want of activity in business, the farmer can anticipate only low prices for his productions. Plentiful as the harvest now promises to be, the year will not be one of great prosperity with him. *He* would make as much, probably more, money, were the crops of the country generally short. The extra expense of harvesting and marketing, when crops are large, and the greater difficulty of turning his produce for *cash*, cause it to be more difficult for him to pay off his laborers, and to settle his grocer's and blacksmith's bills, than it is when his crops are less in quantity, but meet with a more ready sale.

But whether we are correct here or not, we are not so solicitous to have the farmer's purse grow full, as to rejoice because he thrives at the expense of hunger and suffering on the part of those poor, who are obliged to buy their sustenance from day to day. Though we would gladly see the farming interest more flourishing, we are not disposed to be otherwise than grateful to the God of the seasons, for those genial influences of sunshine and showers, which are bringing fruits out of earth's storehouse with such rapidity and in such great profusion.

Farmers will be wise if they make themselves economical, industrious and cheerful as possible, until the time comes when our national government shall impose a tariff, and discriminating duties which shall foster American labor, and give a good market to the New England farmer at his own door, or in the nearest village; or, if that time is not soon to come—and we see but little ground to expect it—then prepare to keep up courage and to hold on manfully, until the indomitable energy and enterprise of New England shall make for itself, in spite of government, canals and railroads of business, and shall press vigorously ahead in such branches of business as will remunerate them for their toils. What that business can be, we do not pretend to divine; but we do cherish a faith that Yankee sagacity will find some way in which to recover from the prostration of business occasioned by maladministration of national affairs, and by a mad career of the people in "making haste to be rich."

SEEDING DOWN TO GRASS.

The old custom of seeding down lands to grass with the grain crop, has not been very successful for the last few years. The grass has failed to do well. At this we are less surprised than we are that the grass did, years ago, generally survive the hardships to which it was subjected. If the seed is sown in the spring with grain, the young grass grows during the early and cooler part of the season in the shade—and when the hottest and dryest weather comes, then the plants, tender as shade and shelter can make them, are suddenly laid bare to the scorchings of an August sun. No wonder that they die;—greater should be the wonder when they live, as they often do. After the grain is taken off, the field may be plowed or merely well harrowed, and sowed with hay seed, and the chances for a crop the next season will be good.

Moist lands that are bound out, and that can be plowed, may be turned over as soon as the grass is taken off, or at any time in August—the earlier the better—and with a top dressing well harrowed in, may be forthwith sown with grass seed, and they will do well. This is a profitable course on all lands that are so moist and heavy that it is difficult to plow, plant and hoe them in wet seasons. On such lands grass is the best crop, and it may be kept in without going through the process of planting.

It is too late now to prepare your corn fields for seeding down at the last time of hoeing, unless you have had an eye to this in the application of your manure and in the hoeings up to this time.

We regard this process of seeding down light and warm lands, as the safest, the best, and the most economical of any with which we are acquainted.

HARVESTING GRAIN.

Custom has induced farmers generally to believe that it is an improper and wasteful practice to cut either wheat or rye with the scythe and cradle. If the grain be neither lodged nor entangled, it may be cut off as clean by the scythe and cradle, as by the sickle. If it be properly gathered and bound, but little, if any, more loss will arise from gathering it in this way. If the grain be cradled in proper time, it shatters less, on the whole, than when it is reaped and secured in the usual way. It is readily granted that if grain be cradled and reaped at the same time, it shatters more by the former practice. It should be recollected, however, that the very tardy progress of the sickle greatly increases the shattering, by procrastinating the harvest so long that the chaff opens, and much of the grain falls out. Whereas the rapid progress of the scythe and cradle cuts off the grain before any material loss from shattering can take place, if the cultivator commences in time. No evil, but much good, will arise from beginning early. This not only prevents shattering, but also the risk of encountering the various injuries to which the crop is exposed by useless delay. Some farmers of the first respectability assert, that practice and observation have convinced them that the grain, and also the flour are best when wheat is cut much before the usual time. This, however, does not accord with my practice. The middle course between the extremes of cutting very early, or at the usual time, will be found the best, except when mildew occurs. In that case, wheat should be cut immediately after it can be determined that the disease is severe. If the crop is only slightly affected, it is far better to let it stand until the grain be fit to cut. —*Lorain's Husbandry.*

MASS. HORTICULTURAL SOCIETY.

Saturday, July 16, 1842.

EXHIBITION OF FLOWERS.

From the President of the Society—Spiræa lobata, var. Americana, 7 feet high; Delphinium Barlowii; Phlox Thompsonii and Cleopatra (both handsome kinds) —Gladiolus floribundus; Double Lychens, &c.

From Hovey & Co.—Picotee and Clove Pinks; 12 kinds of Bengal Tea, Noisette, and Bourbon Roses; Verbenas; Lilium japonicum, and Hoya carnosa.

From S. Walker—Carnations and Picotees—some of them very fine, and justly obtained the premium.

From W. E. Carter—Picotees and Carnations, and Lilium japonicum; Eximicum, and Canadensis subra.

From Messrs. Winship—Specimens of Spiræa ulmaria variegata.

From Jos. Breck & Co.—Fine seedling Picotees.

From S. R. Johnson—Hardy and tender Roses, Carnation and Picotee Pinks and Double Pomegranates.

From A. Bowditch—tender Roses and Yucca gloriosa.

From D. Haggerston—upwards of 50 good Dahlias.

From P. Barnes—Dahlia Constantia, and Gladiolus floribundus.

Bouquets were exhibited from W. Kenrick, Dr. Howand, W. Meller, Miss Sumner, J. Hovey, Hovey & Co., J. L. L. F. Warren, &c.

The exhibition of Carnations and Picotees for premiums, took place today, and the awards were as follows:

For the best display of flowers, to S. Walker.
For the 2d do. do. to J. Breck & Co.
For the best Seedling, to J. Breck & Co.

D. HAGGERSTON, S. R. JOHNSON, } *Judges.*

Per order of the Committee,
C. M. HOVEY, *Chairman.*

☞We acknowledge the receipt of a box of extra large Gooseberries from J. G. Thurston, Esq., Lancaster, Mass. Fine specimens of this fruit have a number of times been exhibited by this gentleman at the Horticultural Rooms, equal to any that have been shown.

J. B.

THERMOMETRICAL

Reported for the New England Farmer.

Range of the Thermometer at the Gardenof the proprietors of the New England Farmer, Brighton, Mass. in a shaded Northerly exposure, for the week ending July 17.

July, 1842.		5,A.M.	12, M.	7,P.M.	Wind.
Monday,	11	52	76	69	E.
Tuesday,	12	56	84	72	W.
Wednesday,	13	62	88	82	S. W.
Thursday,	14	68	87	77	S. W.
Friday,	15	71	73	75	E.
Saturday,	16	67	82	70	S. E.
Sunday,	17	64	88	78	E.

There was a thunder shower about noon on Friday which made a variation of 13 degrees in half an hour.

BRIGHTON MARKET.—Monday, July 18, 1842.

Reported for the New England Farmer.

At Market 285 Beef Cattle, 20 Cows and Calves, 2100 Sheep and 40 Swine.

Prices.—*Beef Cattle.* We quote a few extra $5 25 a 5 38. First quality, $4 75 a 5 00. Second quality, $4 25 a 4 50. Third quality $3 50 a 4 25.

Cows and Calves.—Sales 18, 21, 23, 25, 28, 31 and $35.

Sheep.—Dull. We quote lots 1 38, 1 50, 1 75, 1 81, 1 91, 2 00, 2 25 and $2 50.

Swine.—No lots were sold to peddle. At retail from 4 1-2 to 5 1-2.

WHOLESALE PRICES CURRENT.

Corrected with great care, weekly.

SEEDS. Herds Grass, $0 00 to 0 00 per bushel. Red Top, 40 to 50 cents. Clover—Northern, 10 to 12c.—Southern, 8 a 10 c. Flax Seed, $1 50 per bushel. Lucerne, 25 c. per lb. Canary Seed, $5 00 per bushel.

GRAIN. The arrivals of Corn, during the past week, are about 50,000 bushels, a large portion of which has been taken by the dealers at a reduction on the last weekly report.

Corn—Northern, old, bushel 62 to 63—Southern, round yellow, old, 60 a 61—Southern flat yellow, new, 57 a 58—do. do. white do. 55 a 56--Barley — a — —Rye, Northern, 75 a 00 —do. Southern, 65 a 70 —Oats, Southern, 35 a 36—Northern do. 00 to 40—Beans, per bushel 75 a 1 50.—Shorts, per double bush. 35 a 40—Bran, 25.

FLOUR. The market for Genesee has been decidedly better to day, holders generally asking 1-16 a 1-8 advance.

Baltimore, Howard Street, 4 mos. cr. $6 12 a 0 00 —do. wharf, $6 00 a 0 00 do. free of garlic, $6 12 a — —Philadelphia do. 4 mos. $5 87 a 0 00 —Fredericksburg, lowl'd 4 mos. $6 00 a 0 00 —Alexandria, wharf mountain, —6 00 a — —Georgetown, $6 25 a 6 62—Richmond Canal, $6 12 a 6 25 —do. City, $6 75 a 7 00—Petersburgh, South side $6 50 a 0 00 —do. Country $6 00 a 6 12—Genesee, common, cash, $6 12 a 0 00— do fancy brands $6 18 a 6 25 — Ohio via Canal, $6 00 a 6 12—do do New Orleans, cash $5 75 a 0 00. Rye, $3 75 a 4 00—Indian Meal in bbls. $2 75 a 3 12.

PROVISIONS. The principal sales of the week have been by auction, and consist of nearly 3000 bbls Pork, of various qualities and prices.

Beef—Mess 4 mo. new bbl. $9 00 a 9 25—Navy—$7 50 a 8 00.—No. 1, 7 00 a 0 00—do Prime $4 50 a 5 00—Pork—Extra clear 4 mo. bbl. $10 50 a 11 00—do Clear $10 00 a 10 25 do. Mess, 7 00 a 8 00—do Prime $5 00 a 6 00—do Mess from other States,— a — —do Prime do do $5 00 a 5 50 do. Cargo do. 0 a 0 00— —Clear do do $10 00 a 10 50—Butter, shipping, 6 a 11—do store, uninspected, 10 a 14—do dairy, 15 a 17.—Lard, No. 1, Boston ins. 6 a 6 1-2 — do South and Western, 5 1-2 a 6 1-4 Hams, Boston, 6 a 7—do Southern and Western, 5 a 6—Cheese, Ship'g and 4 meal, 6 a 8—do new milk, 9 a 11.

WOOL. Duty. The value whereof at the place of exportation shall not exceed 8 cts. per pound, free. All whereof the value exceeds 8 cts. per pound, 32 per ct. ad. val. and 4 cts per pound.

The market for this article remains in a very quiet state. Sales are confined to small parcels, to supply the immediate necessities of manufacturers. We have reduced our quotations to conform to sales.

Prime or Saxony Fleeces, washed, lb. 37 a 40 c.--American full blood, do 35 a 37--Do 3-4 do 32 a 35—Do. 1-2 do 30 a 32--1-4 and common do 25 a 28 — Smyrna Sheep, washed, 20 a 25-- Do. unwashed, 10 a 13—Bengasi do 8 a 10—Saxony, clean,—Buenos Ayres unpicked, 7 a 10—co. do. picked, 12 a 16—Superfine Northern pulled lamb 33 a 35--No. 1 do. do. do. 28 a 30—No. 2 do do do 20 a 22—No. 3 do do do 12 a 15.

HOPS. Duty 20 per cent.

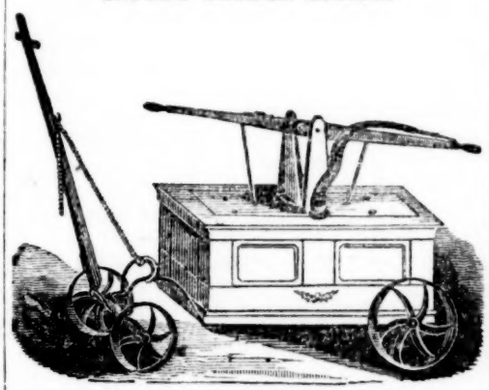
1st sort, Mass. 1841 per lb 10 a 11.—2d do do do 8 a 9.

HAY, per ton, $12 to 13—Eastern Screwed $14 to 16

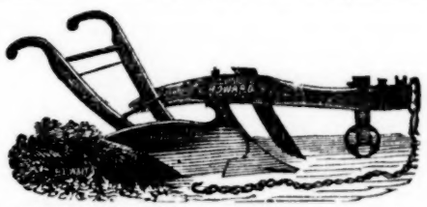
CHEESE—Shipping and 4 meal, 6 to 8c.--New 9 to 11.

EGGS, 12 a 16.

SAYLE'S GARDEN ENGINE.



This is a splendid article. It will throw a constant stream of water to the distance of 50 or 60 feet, with great force, and in case of fire would be a good substitute for a fire engine. The most perfect article for the purpose ever introduced. For sale by J. BRECK & CO., No. 51 and 52 North Market street.



HOWARD'S IMPROVED EASY DRAUGHT PLOUGH.

Great improvements have been made the past year in the form and workmanship of these Ploughs; the mould board has been so formed as to *lay the furrow completely over turning in every particle of grass or stubble, and leaving the ground in the best possible manner.* The length of the mould board has been very much increased, so that the Plough works with the greatest ease, both with respect to the holding and the team. The Committee at the late trial of Ploughs at Worcester, say,

"Should our opinion be asked as to which of the Ploughs we should prefer for use on a farm, we might perhaps say to the inquirer, if your land is mostly light and easy to work, try Prouty & Mears, but if your *land is heavy, hard orrocky,* BEGIN WITH MR. HOWARD'S."

At the above mentioned trial the Howard Plough *did more work, with the same power of team, than any other plough exhibited.* No other turned more than twentyseven and one half inches, to the 112 lbs. draught, while the *Howard Plough turned twentynine and one half inches, to the same power of team!* All acknowledge that Howard's Ploughs are much the strongest and most substantially made.

There has been quite an improvement made on the shoe, or land side of this Plough, which can be renewed without having to furnish a new landside. this shoe likewise secures the mould board and landside together, and strengthens the Plough very much.

The price of the Ploughs is from $6 to $15. A Plough, sufficient for breaking up with four cattle, will cost about $10 50, and with cutter $1, with wheel and cutter, $2 50 extra.

The above Ploughs are for sale, wholesale and retail, at the New England Agricultural Warehouse and Seed Store, Nos. 51 & 52 North Market Street, by

JOSEPH BRECK & CO.

April 20

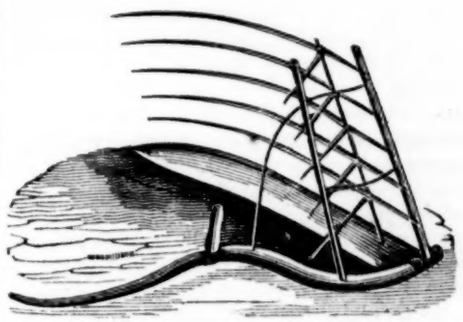
TYE UP CHAINS.

Just received by 500 Chains for tyeing up Cattle.

These chains, introduced by E. H. Derby, Esq. of Salem, and Col. Jacques, for the purpose of securing cattle to the stall, are found to be the safest and most convenient mode of fastening cows and oxen to the stanchion.

For sale by JOSEPH BRECK & CO., No. 52 North Market st.

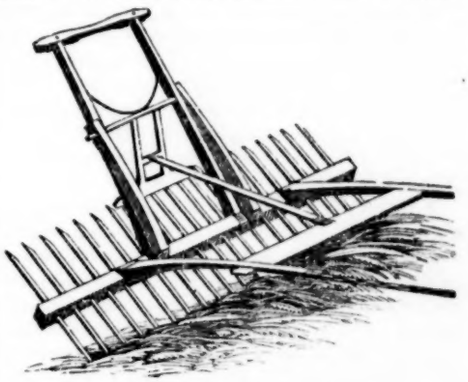
GRAIN CRADLES.



The difference in gathering a crop is so much in favor of cradling, that we must suppose that it will be the only mode adopted hereafter, and the grain cradle will become of as much use as an implement of husbandry, as the plow now is.

There has been a very great improvement in the manufacturing of this article, they are now made on the most improved plan; the scythe is well secured and finished in a superior manner and made of the best cast steel.

For sale by JOSEPH BRECK, & CO. No. 51 & 52, North Market st., Boston. July 13



REVOLVING HORSE RAKE.

This is one of the most useful and labor saving machines now in use. One man and a horse with a boy to lead, will rake on an average from 25 to 30 acres per day, with ease and do the work well. There is a great advantage in this rake over all others, as the person using it does not have to stop the horse to unload the rake. For sale by J. BRECK & CO., No. 52 North Market st. May 22.

GRINDSTONES, ON FRICTION ROLLERS.

Grindstones of different sizes, hung on friction rollers and moved with a foot treader, is found to be a great improvement on the old mode of hanging grindstones. Stones hung in this manner are becoming daily more in use, and wherever used, give universal satisfaction. The rollers can be attached to stones hung in the common way. For sale by J. BRECK & Co., No. 51 North Market street.

LACTOMETERS—a simple instrument for testing the quality of milk. For sale by J BRECK & CO.

MISCELLANEOUS.

SIMILES.—"Pray, mother, what are *similes?*

They are resemblances, my child; the word simile means a thing that is like another. We often use them to give clearness and energy to our ideas. I will tell you some similes in common use, and put into rhyme so that you may remember them.

As proud as a peacock—as round as a pea;
As blithe as a lark—as brisk as a bee;
As light as a feather—as sure as a gun;
As green as the grass—as brown as a bun;
As rich as a Jew—as warm as toast;
As cross as two sticks—as deaf as a post.
As sharp as a needle—as strong as an ox;
As grave as a judge—as sly as a fox.
As old as the hills—as straight as a dart;
As still as the grave—as swift as a hart.
As solid as marble—as firm as a rock;
As soft as a plum—as dull as a block.
As pale as a lily—as blind as a bat;
As white as a sheet—as black as my hat.
As yellow as gold—as red as a cherry;
As wet as water—as brown as a berry.
As plain as a pikestaff—as big as a house;
As flat as the table—as sleek as a mouse.
As tall as the steeple—as round as a cheese;
As broad as 't is long—as long as you please.

Merry's Museum.

NOBILITY OF LABOR.—The man who labors in some honest occupation and supports himself by his own industry is one of nature's noblemen. He carries with him an independence of feeling unknown to many a titled aristocrat who spurns the idea of labor, and holds in utter contempt the man who lives alone upon the result of his own industry. To what pitiful shifts and disreputable means are the labor haters often driven to maintain the dignity to which they aspire, the dignity of living without manual labor.

Many, not relishing work, think that some professional pursuits would elevate them in the scale of human dignity, and, in spite of what nature designed them for, commenced a profession in which they can never rise above mediocrity, whereas they might acquire reputation in their legitimate sphere. How many of the three professional hangers-on may every where be met with, who by some means have obtained a fine suit of clothes, and being too proud to work, live a life of miserable dependence, and encounter the sneers and jibes of the honest mechanic who asks no favors but from heaven, and a plenty of employment from his fellow men.

Many a poor, laughed at doctor, and pettifogging lawyer, who are more than half starving for want of employment, might have made good mechanics, been respected in their calling, and in the enjoyment of at least a decent competency. Parents, we advise you to let your children follow the indications of nature in their choice of pursuits through life.—*Lickinu Valley (Ky) Register.*

A PARSON WELL PAID.—The income of the Archbishop of Canterbury is stated to be £41,000 a year which makes £788 9*s.* 2*d.* per week, £112 6*s.* 6*d.* per day, and £4 13*s.* 6*d.* per hour, reckoning 24 hours to the day."

This is at the rate of about one hundred dollars every three hours of breath the Archbishop draws. What a charge for working his own lungs, and living! If we deduct for his sleeping *eight hours*, and for his eating *four hours*,—(and this is very little, for a high feeding Englishman usually sits fours hours at his dinner-table)—for exercise and recreation *four hours*—it takes our parson the remainder of his twenty four to receive and count his cash without leaving him a minute to say his prayers. Archbishops, however, manage money and divine matters for the most part by deputy, and in this way gain time for many secular employments which we have not taken into our estimate of occupations, which cost the people so dear.—*Globe.*

CHRISTIAN PHILANTHOPY.—Seldom are we called upon to record a finer incident than recently came to our knowledge. A gentleman well known in our city, who has been constrained by severe pecuniary losses to abandon the business which at one time bade fair to enrich him, was induced to ask his creditors to discharge him, on condition of his giving up all his property. He preferred to do this instead of availing himself of the boon extended to him in common with thousands of his fellow citizens, by the benevolence of Congress. His creditors, without one exception, signed his discharge; but one of them whom he almost feared to approach, having been compelled to pay his endorsement on an "accommodation note" for two thousand dollars—actuated by a peculiarly generous as well as Christian feeling, remarked to the applicant for relief, for he observed his embarrassments, "Come on, don't be afraid. I know what you have come for," and instantly affixed his name to the discharge. Not satisfied with doing this, after a short pause, he seized his hand and said, "Take this—I know you must be short of money—you have a large family to support, and it will help you." The debtor to his utter amazement found it was a check for one hundred dollars! There is something refreshing in such a scene as this. The debtor told us the story, and while narrating it, his eyes but too plainly indicated how his heart felt the generosity of one who had suffered by his misfortunes. The same morning this fine specimen of nature's nobility has discharged another person, who owed him nine thousand dollars. There is no romance in this.—*N. Y. Commercial.*

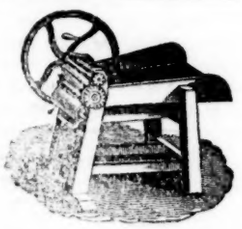
EXTRACTS.—Every man is guilty of wrong, which it would be wrong for any other man to attempt to right. We cannot act right where we have no right to act. It might be good for the idle, were he compelled to labor; and for the spendthrift, were we to control his estate. But what would be attended with partial good, would involve universal evil, endangering all personal liberty and separate interest. In righting one man's wrong, we would wrong every man's right.

Virtue is both a title and an estate; a title the most exalted, because it is God who confers it; an estate the most rich, because it endures forever. Envy may not derogate the title, because it is written in the book of Heaven; and fraud cannot diminish the estate, because no sin can reach it.

There is nothing purer than honesty—nothing sweeter than charity; nothing warmer than love—nothing richer than wisdom—nothing brighter than virtue—and nothing more steadfast than faith. These united in one mind, form the purest and sweetest, the warmest, the richest, the brightest and the most steadfast happiness.

When we see birds at the approach of rain, annointing their plumage with oil, to shield off the drops, should not it remind us, when the storms of contention threaten us, to apply the oil of forbearance, and thus prevent the chiling drops from entering our hearts.

To accomplish much, a man must live as if he were immortal.



GREEN'S PATENT STRAW CUTTER.

JOSEPH BRECK & CO. at the New England Agricultural Warehouse and Seed Store Nos. 51 and 52 North Market Street, have for sale, Green's Patent Straw, Hay and Stalk Cutter, operating on a mechanical principle not before applied to any implement for this purpose. The most prominent effects of this application, and some of the consequent peculiarities of the machine are:

1. So great a reduction of the quantum of power requisite to use it, that the strength of a half grown boy is sufficient to work it efficiently.

2. With even this moderate power, it easily cuts two bushels a minute, which is full twice as fast as has been claimed by any other machine even when worked by horse or steam power.

3. The knives, owing to the peculiar manner in which they cut, require sharpening less often than those of any other straw cutter.

4. The machine is simple in its construction, made and put together very strongly. It is therefore not so liable as the complicated machines in general use to get out of order.

AGRICULTURAL IMPLEMENTS, &c.

The Proprietors of the New England Agricultural Warehouse and Seed Store No. 51 and 52 North Market street, would inform their customers and the public generally that they have on hand the most extensive assortment of Agricultural and Horticultural Tools to be found in the United States. Part of which are the following:

1000	Howard's Patent Cast Iron Ploughs	100 doz.	Cast Steel Shovels.
300	Common do. do.	150 "	Common do.
200	Cultivators.	100 "	Spades.
100	Greene's Straw Cutters.	500 "	Grass Scythes.
50	Willis' do. do.	300 "	Patent Snaiths.
100	Common do. do.	200 "	Common do.
100	Willis' Patent Corn Shellers.	500 "	Hay Rakes.
50	Common do do.	200 "	Garden do.
200	Willis' Seed Sowers.	200 "	Manure Forks.
50	" Vegetable Cutters	300 "	Hay do.
50	Common do. do.	500	Pair Trace Chains.
200	Hand Corn Mills.	100 "	Truck do.
200	Grain Cradles.	100	Draft do.
100	Ox Yokes.	500	Tie up do.
1500	Doz. Scythe Stones.	50	doz. Halter do.
3000	" Austin's Rifles.	1000	yards Fence do.
		25	Grind Stones on rollers.

March 17.

SOUTHDOWN STOCK.

For sale by the subscriber at the foot of Atwell's Avenue in the city of Providence, one imported Southdown Buck. Six Ewes and four Lambs. The above are of the purest blood, and second to none in the country.

June 8. 8w JOHN GILES.

NEW ENGLAND FARMER.

A WEEKLY PAPER.

Terms, $2 per year *in advance*, or $2 50 if not paid within thirty days.

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